AUGUST 2012 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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August began with an upper-level ridge over California, keeping temperatures several degrees above normal. Monsoonal moisture stayed mostly east of the Southern Sierra Nevada and the Kern County desert areas, and only one lightning strike was recorded along the Southern Sierra Nevada crest on August 2nd, from a thunderstorm over the northwestern corner of Inyo County.

The upper-level ridge shifted northward on August 3rd, allowing the flow aloft over southern California to become more easterly. Thunderstorms that developed over San Bernardino and Los Angeles Counties during the afternoon of the 3rd skirted Kern County as they tracked westward, and a couple of showers that developed over the El Paso Mountains that moved westward into the Piutes and Lake Isabella areas.. Rainfall amounts were minimal as no rain was reported by any gauges in either the Kern County mountain or desert areas. The dry thunderstorms did cause new fire starts in the Kern County mountains, including the Piutes wildfire that was located in the south end of the Sequoia National Forest.

While this monsoonal moisture was affecting the southern part of the central California interior, a weak upper-level low was deepening the marine layer along the coast. Marine air pushed through the Sacramento Delta during the evening of the 3rd, and even spilled through Pacheco Pass. This marine air brought somewhat cooler temperatures to the central and southern San Joaquin Valley on August 4th.

The marine air lingered over the San Joaquin Valley through August 5th. The high at Fresno was 99 degrees on the 4th and 5th, the only days during the first 24 days of August that the high at the Fresno-Yosemite International Airport was under 100 degrees.

The upper-level ridge centered over the Four Corners region built westward into California on August 6th, heralding the start of a near-record string of days with above-normal temperatures. After two days with highs of 99, Fresno again had a triple-digit high, the first of 19 consecutive days when the high was 100 degrees or higher. An Excessive Heat Watch was issued on the 7th for elevations below 4000 feet from August 10th through the 12th for near-record high temperatures.

Monsoonal moisture wrapping around the ridge moved into California, triggering thunderstorms over the Southern Sierra Nevada and the Kern County desert on August 9th. One afternoon

thunderstorm that moved into Kern County between Boron and Edwards AFB had gusts to 45 mph. Other thunderstorms just east of Kern County, or over western San Bernardino County, produced gusts to 45 mph as they collapsed during the evening hours. These gusts also moved into southeastern Kern County. A spotter in Rosamond reported a wind-driven dust cloud that moved through Rosamond.

The 9th also saw the Excessive Heat Watch upgraded to a Warning as computer model runs continued to forecast near-record heat for August 10th-12th. With well above-normal temperatures and abundant monsoonal moisture, convection again fired up over the mountains and desert on the 10th. During this day, lightning sparked another large wildfire in the Kern County mountains, called the Jawbone Complex (about 15 miles northeast of Tehachapi).

As expected, temperature records began falling as the strong upper-level ridge remained in place over the southwestern United States. The Kern County desert initially recorded the warmest temperatures; however, enough monsoonal moisture returned to allow blow-off from the isolated thunderstorms to form a cloud layer over these areas by the 11th so that temperatures moderated. In contrast, temperatures continued to warm over the San Joaquin Valley, where Fresno and Bakersfield reached 110 degrees on the 13th.

On August 12th, a thunderstorm developed near Mojave that produced a 57 mph wind gust, prompting a severe thunderstorm warning to be issued. Thunderstorms lasted through the afternoon and early evening hours during this day throughout the desert areas in Kern County.

By August 13th, an upper-level low was located off the Pacific coast of Baja California. The combination of the ridge over the Southwest and the low off the coast kept a southeasterly flow over California that continued to bring monsoonal moisture into the state from the south. This moisture produced mid-level clouds that persisted over parts of the San Joaquin Valley, even during the night-time hours and kept overnight lows at record or near-record high values.

Thunderstorms developed again by midday on August 13th, with lightning strikes occurring from the eastern Tehachapi Mountains north to Yosemite National Park. Some of these strikes triggered wildfires in the Southern Sierra Nevada and near Tehachapi, including the multi-fire Tehachapi Complex, and outflow winds gusted to around 50 mph in Ridgecrest. At the lower elevations, well-above-normal temperatures continued, prompting a one day extension of the Excessive Heat Warning.

August 14th saw more thunderstorms over the mountains and desert as monsoonal moisture continued to stream into the hot airmass over the central California interior. One thunderstorm over southeastern Kern County reached severe levels, as outflow winds reached 67 mph at Edwards Air Force Base. Also, clouds from this monsoonal moisture kept overnight lows at

record warm levels. Both Bakersfield and Fresno set high minimum temperature records. Bakersfield never got below 83 degrees, and Fresno was only a degree cooler.

August 15th saw a weak push of marine air through the Sacramento Delta. Although this marine air did cool the central and southern San Joaquin Valley a couple of degrees, it failed to halt Fresno's ongoing string of triple-digit highs.

An upper-level disturbance that moved across central California during the night of August 17th-18th brought enough instability to the monsoonal moisture aloft to trigger widespread light showers across the central California interior. By sunrise, lightning had been reported in Clovis and in the Southern Sierra Nevada foothills near Coarsegold. The clouds also kept low temperatures abnormally warm, with Bakersfield having a low of 80 on August 18th, and Fresno a low of 75. Both set high minimum temperature records for the 18th. The next day, Fresno tied its record high minimum temperature of 74, a record untouched for more than a century (since 1892).

Thunderstorms developed over the Southern Sierra Nevada and the eastern Kern County desert during the afternoons of August 21st and 22nd. Over 300 lightning strikes were recorded over the Southern Sierra Nevada—mainly near the crest—during the early morning hours of the 22nd, as an upper level low-pressure system moved across central California. Later on August 22nd, as an upper-level low traversed Kern County, a funnel cloud was observed over Ridgecrest during the late afternoon, followed by the development of a very strong thunderstorm near Randsburg less than an hour later. Outflow boundaries from thunderstorms over southeastern Tulare County, southern Inyo County and northwestern San Bernardino County collided to form the equivalent of a standing-wave node just north of Randsburg. This kept the thunderstorm stationary as it strengthened, resulting in very heavy localized rainfall. Flash flooding closed U.S. 395 from near Randsburg north to the Garlock Road as several inches of water flowed across the roadway. Later that evening, runoff from rain falling on the El Paso Mountains produced minor mud and rock slides on the Red Rock-Randsburg Road.

By August 23rd, an upper-level trough was dropping out of the Gulf of Alaska. As the trough approached the coast late on the 24th, the marine layer began deepening and spilling into the San Joaquin Valley. The shallow layer of marine air that initially pushed into the central and southern San Joaquin Valley finally ended the string of 100-degree days at Fresno. The high at both Bakersfield and Fresno was 98 degrees.

The marine layer continued to deepen through the day of August 25th, and by the evening had a depth in excess of 3000 feet. Marine air began spilling through the passes and canyons of the Temblors and Diablo Range, creating gusts to around 35 mph through and below the Pacheco Pass and near Sunflower Valley. Temperatures in the central and southern San Joaquin Valley

continued to cool, with Fresno only reaching a high of 92 degrees on the 26th; Bakersfield was a degree warmer.

Cool temperatures continued on August 27th, and the morning that day was the coldest of the month for both Bakersfield and Fresno. High pressure subsequently began rebuilding into California from the east, with another surge of monsoonal moisture wrapping around the edge of the ridge and moving into southern California. More monsoon-related activity occurred in the desert areas of Kern County and along the crest of the southern Sierra Nevada until the 30th. In fact, some warnings (including one severe thunderstorm and one flash flood warning) were issued on the 30th for Edwards AFB, and a flood advisory was issued for much of the desert in Kern County for the afternoon and evening hours. A wind gust of 67 mph was reported at one station on Edwards AFB on the afternoon of the 30th due to thunderstorm outflow winds. This storm also dumped 0.35 inch of rain in less than an hour at the base.

Temperatures in the central and southern San Joaquin Valley warmed back into the mid to upper 90s on August 28th, and continued to warm until the 30th as the upper-level ridge prevailed over the area. By the 31st, the ridge began to weaken and move eastward as cooler marine air once again began to filter into the San Joaquin Valley; this allowed temperatures to return to near average, or mainly lower to mid-90s for maximum diurnal temperatures, in this area. An upper-level trough allowed for a more westerly flow over the region, so locations elsewhere showed a slight decrease in temperature.

As of August 31st, the average temperature at Fresno was 86.5 degrees, which was 4.8 degrees above normal. This is the warmest August on record for Fresno, the previous warmest being August 1931 with an average temperature of 84.4 degrees. The average temperature at Bakersfield was 87.0 degrees. This would rank as Bakersfield's fifth warmest August. (For more information, see "The 10 Hottest Augusts table" on the next page).

Fresno's 19-day string of 100-degree days tied for the third longest string of consecutive 100-degree days on record. August 2012 had a total of 23 days when the high temperature reached 100 degrees or more at Fresno; this tied for the second greatest number of 100-degree days for the month of August which also occurred in 1910.

FRESNO 100-DEGREE DAY RECORDS...

	CONSECUTIVE	MOST IN AUGUST
1.	21 IN 2005	24 IN 1967
2.	20 IN 1984	24 IN 1891
3.	19 IN 2012	23 IN 2012
4.	19 IN 1981	23 IN 1910
5.	19 IN 1966	22 IN 1986

THE 10 HOTTEST AUGUSTS
(AVERAGE TEMPERATURE IN FAHRENHEIT)...

	BAKERSFIELD	FRESNO
1.	89.2....1891	86.5....2012
2.	88.8....1909	84.4....1931
3.	87.7....1967	84.2....1986
4.	87.1....1890	84.1....2008
5.	87.0....2012	84.1....1998
6.	86.8....1897	84.0....2005
7.	86.5....1889	83.6....1967
8.	86.4....1895	83.6....1891
9.	86.3....1898	83.5....1984
10.	86.2....1969	83.4....1996